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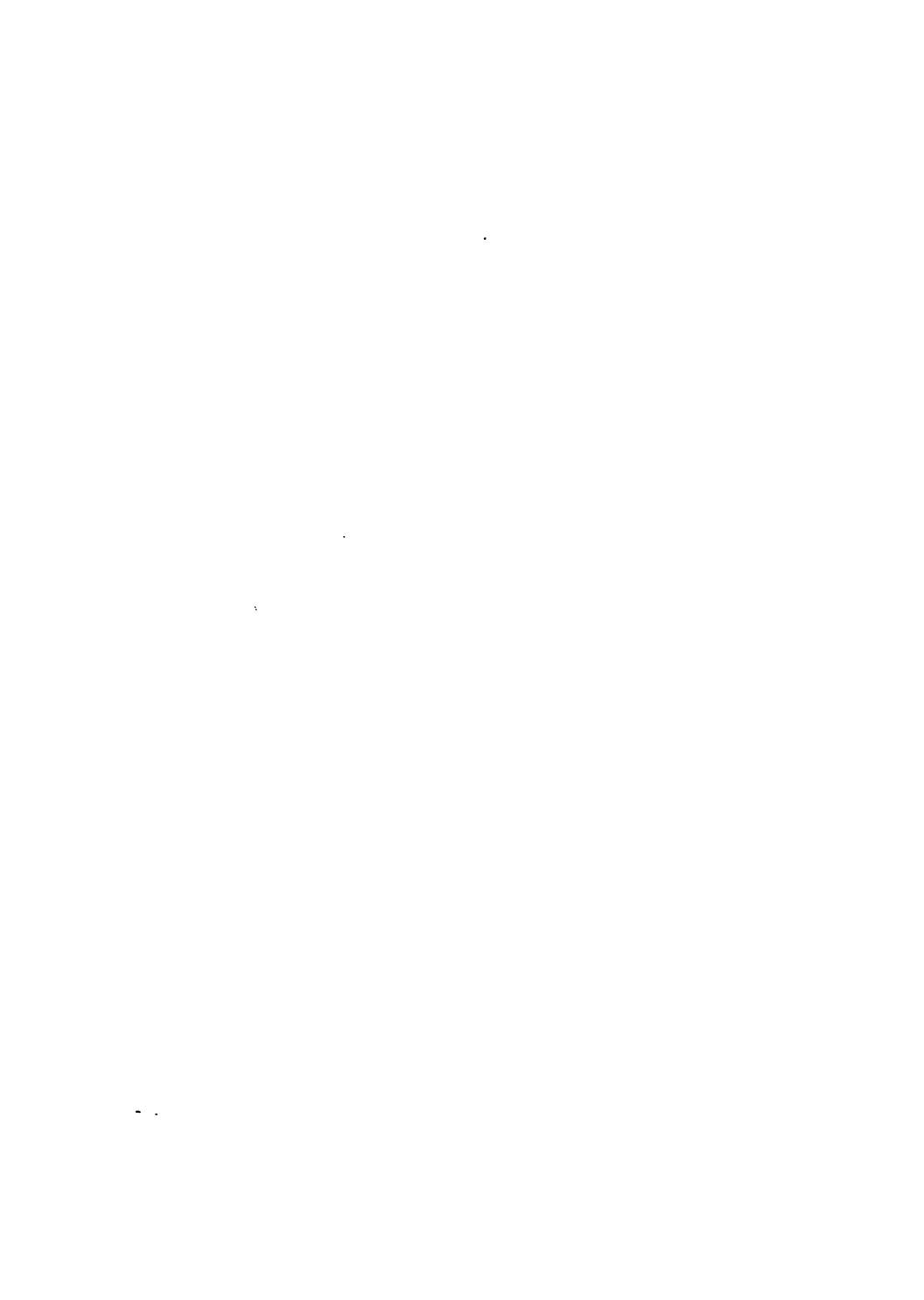
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TO

J. JOYCE MURRAY,

AS A FRIEND OF MUSICIANS,

AND OF MEN.

P R E F A C E.

THIS little work is offered simply as a preparation to larger works on the subjects treated of, in the belief that the student will be more likely to give a welcome to an outline intended for his instruction, than to an elaborately drawn, fully, and richly coloured picture. The author has no new theory to advocate—no fancy hobby to exhibit; his desire in writing has been to be concise, and his object to be useful.

The work may also serve another end, namely, to help those who hear music to understand the means by which the different effects are gained, and so augment the pleasure derived from a performance, and to increase the appreciation of the efforts and genius of the composer.

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FORM AND INSTRUMENTATION

FORM.

FORM in music may be said to be the arrangement of ideas, more or less according to an accepted plan.

The character of an idea is greatly influenced by the rhythmic or melodic shape in which it is presented.

Rhythm.

As far as the RHYTHM of a melody is concerned, it is obvious that it is capable of as great variety as the notes composing a bar of music may be altered or grouped into. The use of dots, slurs, syncopation, or changed accent giving wide scope to the writer.

Melody.

MELODY may be made out of the notes of the scale arranged in any order according to fancy, provided always that the notes consonant with the accompanying chord be either more in number than the dissonant notes employed, or else are only used upon the accented parts of the bar. For example, if the accompanying chord be tonic, the melody if it moves must contain one or more notes belonging to the tonic chord upon the accented part of the bar :—



A melody does not merely consist of a series of single notes played or sung ; it is dependent upon rhythm for much of its character. How this is effected may be seen by taking the theme quoted above, and altering the time and accent :—



or by changing the time signature :—



The variation of accent affords the opportunity for a like variation of accompaniment. The chord may be used to each note or group of notes upon the accented part of the bar, which has the note of the melody as an essential part, provided that the rules of the progression of harmony be not infringed.

It is altogether useless to attempt to lay down a series of rules, the knowledge of which should give the student the power of inventing melodies. So much depends upon the individuality of the writer, that no fixed canons are possible. If a musician has not the gift of melody, the power of discovering from out of the ordinary notes of the scale, united with the variety of rhythm, fresh and pleasing combinations of note relationships, no artificial aid can impart it to him. He may

learn to make an uninteresting tune, and to infuse a certain amount of life into the tune by variety of treatment and changes of harmony, but the faculty of writing beautiful melodies is not to be acquired. The most commonplace air may be made shapely by the help of art, just as the most awkward form may be made unobjectionable by the assistance of the tailor or milliner.

Construction of Melody.

MELODY may be grouped into phrases, sections, and periods. A phrase may be formed of two or more notes, a section may be two or four or more bars in length, and a period consists of two sections.

The first section should end on a half cadence, the second upon a complete cadence.

FIRST SECTION. BEETHOVEN.

SECOND SECTION.

TWO SECTIONS. SCHUMANN.

A section may be complete in three bars, as in the Minuet in Mozart's G minor Symphony.

A section is said to be regular when it is composed of two

phrases of two, four, or six bars each; irregular when it has five or seven bars not capable of division into equal phrases.

A melody, such as that of Mozart's quoted above, may be developed in such a way that its several parts may form new phases or designs, either by imitating its rhythm, or changing the position of the notes so that they appear in other parts of the scale. This, it will be noted, is done in the second phrase, the first being in G minor, the second in B flat major. In the course of the same minuet the phrase is repeated at various degrees.



The phrase of the second bar is also ingeniously made use of to form an episode :—



There being practically no end to the varieties and changes with which an idea may be presented, no fixed rules can be applied to the making of melody. The student is therefore recommended to gain experience by observation, such as a careful analytical perusal of the works of writers of all ages, but especially those of the last half of the preceding century and the first half of the present, would furnish.

All the remarks here offered are intended to guide and not to confuse the learner, as there is no royal road to any branch of the study of music, every step to be taken being beset by obstacles which must be cleared away by the student alone if he desires to reach the goal, although the obstacles are in no way insurmountable.

As, moreover, he will find that the frames of musical

structures are designed according to set plans, it is after all the most helpful to him to be informed of the character of those plans, in order that he may ornament his building after his own design. For it is in the variations of the ornament that one man's work may be known from that of another.

If all men were to make their tunes in exactly the same form as those already made, and to compose upon the patterns given, without variation, all musical works would bear as great a likeness the one to the other as the rows of houses in speculative builders' terraces.

Again, it may be said that there is no need to give copious examples in an elementary book, any more than there is a necessity to quote largely from the literature of a tongue in an A B C book for beginners, such as this is intended to be.

A long tale of examples tends to confuse the mind. It is, therefore, proposed to offer here, a skeleton only of the various forms likely to be useful to the young composer; these he can cover according to fancy in his own work, and can quickly learn to analyze the labours of others with freedom, and with the certainty of gaining more knowledge by this course than if he had burdened his brain with too much to begin with.

The Chief Forms used in Music.

MUSIC may be classified under three heads—Vocal, Instrumental, and Vocal and Instrumental.

Vocal music may consist of several branches—Solos, Duets, Trios, Glees, &c., according to the number of voices required for the several parts. Part-songs, Madrigals, and Choruses for more than one voice to a part. The character of the words, and the situation the several items are required to fulfil, determine the form in which they should be treated.

It is chiefly in instrumental music that the particular forms

so called, are used, though of course there is no reason why that the same forms should not continue to be, as they have been, employed for the sake of change occasionally in vocal music.

The SONATA is the most important among the many forms, and according to modern use it should have at least three separate movements. The first an "Allegro," with or without an introduction ; the second in slower time, hence it is sometimes called the "Slow Movement;" and the last, called the finale, should be also an "Allegro." If there is a fourth movement it may be in a medium *tempo*, and can be inserted between the slow movement and the finale.

The older writers introduced a movement in form of a Minuet, and the modern writers, copying Beethoven's example, make use of a "Scherzo" as the added movement.

The first movement should be written upon the plan called "Sonata form," the last movement may also be in the like form, or it may be a "Rondo" or any other shape.

The SONATA FORM, also called the *Duplex form*, is usually employed for the first movement of Sonatas, Overtures, Symphonies, Concertos, and works of like character.

It may be thus laid out :—

MAJOR KEYS.

FIRST PART.

SUBJECT IN TONIC, with or without a short introduction.

EPISODE IN TONIC.

MODULATION into the Dominant to introduce by what is sometimes called a causeway or bridge ;

The SECOND SUBJECT in the Dominant,

EPISODE in any related key,

TRANSITION TO THE DOMINANT to complete the first half of the movement, which is usually marked for repetition.

SECOND PART.

SUBJECT IN DOMINANT, with excursions into as many keys as the subject will admit of, or the fancy direct.

EPISODES.—Melodic phrases formed of ideas already enunciated, and which should ultimately lead through the Dominant to a return of the

SUBJECT IN THE TONIC, afterwards varied in the rhythm and form of the melody, at first given out, so that it may be recognized.

EPISODE chiefly in the Dominant leading to

The SECOND SUBJECT in the Tonic.

EPISODES or fantasia passages chiefly in the Tonic.

CODA formed of portions of the subject or its episodes.

Conclusion in the Tonic.

This also may be marked for repetition.

The second half is usually more extended than the first, and is sometimes called the "Free Fantasia" part.

The same form may be used in MINOR KEYS, with this difference, that instead of the word Dominant, the words Relative Major should be used as a general rule. There are many instances where the composer has with the greatest effect employed the Dominant of a minor key, or has even made modulations into keys remotely related. This the student may do when he has attained sufficient skill in the use of his material.

Here it may be noted that the first and second subjects spoken of above should be distinct in character so as to afford the best and most marked contrast, as well with regard to Rhythm as to Melody.

MOZART.



The skeleton of the Sonata, Duplex or Binary form, is therefore :—

FIRST PART.

| | | |
|-------------------------|--|-----------------------------|
| First Subject in Tonic. | | Second Subject in Dominant. |
| Episode. | | Dominant Close. |

SECOND PART.

First Subject in Dominant. | Repetition. | Coda.

The melodies of the subjects may be given out by any instrument, according to the wish of the composer, and may even, in repetition, be broken up and distributed among many.

The Andante, or Slow movement, may also be written in Sonata form, if the composer pleases. It need not be in the key of the opening movement, but may be in any collateral, or some distantly-related key. The subjects should be of a soothing, almost pathetic character, and the composer may indulge his taste and fancy by the introduction of consonant variations.

Three-fold Form.

THIS form, also called TRIPLEX or TERNARY form, is composed of three portions.

In the first the Theme, with temporary modulations, should be given, so that the sense of the original tonic is not lost sight of. It should come to a close upon the Tonic first proposed.

The second should have a new subject or subjects, set out in a different though nearly-related key. The modulations should also be transient. There may be two sections, not necessarily marked for repetition, the first closing in the dominant of the proposed key, the second ending as it began.

The third part must begin and conclude in the original

key; the themes already heard must be used with as much variety of development as possible. Excursions into related keys may be made so long as the sense of the original key is not obliterated. A Coda should end all.

OUTLINE OF THE FORM.

First part.—SUBJECT, with slight modulations, ending in original key.

Second part.—SECOND SUBJECT, beginning and ending in related key.

Third part.—PREVIOUS THEMES, with modulations and developments, the movement to begin and end in the key of the first part.

Rondo Form.

FIRST PART.

FIRST SUBJECT, with or without an introduction in the original key.

EPISODE, modulating into the dominant if the key be major, or into the relative major if the key be minor.

SECOND SUBJECT in the dominant if major, relative major if minor, modulating into the original tonic to bring back the

FIRST SUBJECT in the Tonic to complete the first half of the movement, which is not repeated.

SECOND PART.

SECOND SUBJECT, with modulations to distant keys if desired, back to the Tonic to repeat the

FIRST SUBJECT.

EPISODE to introduce the

SECOND SUBJECT.

EPISODE, with transient modulations.

CODA in the Tonic.

Minuet Form.

THE MINUET is often written in a short Rondo form, with the addition of a Trio, each in triple time. Each part of the first portion is repeated. The Trio, not unusually in the same form, has also each part repeated, and the repetition of the first portion completes the movement.

If the Tonic be major, the Trio should be in the Dominant ; if it be minor, it may be either the relative major or the major of the Tonic. Thus, if the key be F major, the Trio is usually in C ; if F minor, the Trio may be in A flat or in F major.

If the Scherzo be determined upon, it can be written in either triple or duple time, but the foundation of the form is the same.

Of course, it will be understood that the plans here given are subject to many changes, as may be seen in the works of accepted writers, much depending upon the skill, ability, and humour of the composer. The hints are intended simply as directions towards a given goal ; the student may make as many turns off the road as he has a mind to, or has the strength and patience to support him. He may succeed in discovering entirely new paths ; he need only trouble himself with using the well-known forms until he is sufficient master of his craft to find out others for himself, perhaps in turn for the benefit of his followers. As, however, children first learn to talk by imitation, so the student should be content with copying existing examples, until patience brings skill, and skill experience.

Variations Form.

THE FORM OF VARIATIONS, although now dependent upon an apparent caprice in treatment, yet can be reduced to a plan

as simple and as shapely as the other forms. The outline may be thus sketched of a single subject with variations.

SUBJECT.

SIMPLE VARIATION, either in the Tonic or in a nearly-related key.

SECOND VARIATION, of a more difficult character, in the Tonic.

THIRD VARIATION in the minor or sub-dominant.

EPISODE with new ideas on a new key.

FOURTH VARIATION with a new rhythmical figure.

FIFTH VARIATION with new harmonies.

SIXTH VARIATION, or a CODA formed of fragments of previous figures.

As a general rule, four variations are enough if the movement forms part of a larger work. The melody may be given out as a third variation in the Bass, in Canon or Fugue form, if it will permit of such treatment. The method of making variations is left to the free-will of the writer. If the composer decides upon treating two subjects, they should be written in contrasted keys, the one major, the other minor. They may be used alternately, until each has been heard with new changes of variations, either four or five times. Then a coda should be constructed in the key originally proposed.

In building up the CODA, it is as well to remember that it should appear like the summing up of previously-delivered evidence by a judge, and as little new matter should be employed as possible; otherwise it will distract the attention, and divert the mind of the hearer from the main purpose—that of bringing to a pleasing end the whole business.

Fugue Form.

As there are numerous methods of treating a subject in FUGUE form, and as the matter should be made the basis of a separate study, it is thought advisable here to indicate only the chief points of construction which should be observed in the making of every regular Fugue.

1. SUBJECT.
2. ANSWER, made out of the subject either at the fifth above, or the fourth below.
3. THE COUNTER-SUBJECT, formed of the harmony to the answer.
4. EPISODES, or bridge passages.
5. The STRETTO, or the answer to the subject at a nearer distance than that originally given.
6. The PEDAL POINT.
7. The CODA.

INSTRUMENTATION.

CLASSIFICATION OF INSTRUMENTS.

MUSICAL instruments are divided into three broad classes, namely, Stringed, Wind, and of Percussion.

STRINGED INSTRUMENTS are of three kinds :—

- (1) Those played by means of a bow, such as violins, violas or tenors, violoncellos, and double-basses. The various notes being produced by stopping, *i.e.*, shortening the strings with the fingers of the left hand.
- (2) Those played with *plectra*, hammers, or plucked by the fingers, such as zithers, dulcimers, harps, guitars, or mandolines.
- (3) Those played by means of keys, such as harpsichords, or pianofortes.

WIND INSTRUMENTS are of three sorts of material—wood, brass, and metal and wood combined.

WOODEN WIND INSTRUMENTS are of two kinds :—

- (1) With reeds, as the oboe or hautboy, cor-anglais, clarinets, basset-horns, and bassoons, single and double.
- (2) Without reeds, as piccolos, flutes, having holes through which the tone is elicited by breathing, and serpents, the tone being brought out by blowing through a mouthpiece.

BRASS WIND INSTRUMENTS are of three kinds—plain tubes, tubes with valves or pistons, and tubes with slides, all with mouthpieces in addition.

Horns, trumpets, and bugles, made without keys, valves or pistons, are simple tubes curved into a convenient portable shape.

Horns, trumpets, cornet-à-pistons, sax-horns, ventil-horns, ophicleides, euphoniums, and bass tubas, with keys, valves or pistons, are capable of giving every semitone within their compass, but the quality of the notes so produced is inferior to that from the plain tubes referred to in the section immediately preceding.

Trumpets and trombones are made with slides, which answer a purpose similar to that obtained by the use of valves or pistons.

Organs and harmoniums are played by means of a key-board. Their construction is too well known to need a special description in this place.

INSTRUMENTS OF PERCUSSION—having the sound elicited by striking—are of two kinds, those giving definite, and those giving indefinite tones :—

- (1) Definite tones are given by bells, either single, or played with keys as the Glockenspiel ; and kettle-drums.
- (2) Indefinite tones come from the long drum or *grosse caisse*, tambourine or *tambour de Basque*, triangle, cymbals, and tom-toms or gongs.

Combinations of these instruments more or less varied according to the effect intended to be produced, make up what is called a score, with or without the addition of voices of several sorts.

The most convenient arrangement for an instrumental score is that adopted by Beethoven, in which the instruments are for the most part set forth in the order of shrillness or gravity to which they belong, piccolos (2-foot tone) at the top, and double-basses (16-foot tone) at the bottom.

Handel, Mozart, and Haydn usually placed the parts for their brass and instruments of percussion at the top, Beethoven in the middle lines of his score.

Instruments are said to be transposing or non-transposing.

Transposing instruments produce different sounds to those actually represented upon paper, and presumably played.

The chief among transposing instruments are the piccolo, clarinet, horn, trumpet, drum, all valved brass instruments except the trombone and euphonium, the guitar, and the double-bass.

All other instruments produce the notes as written.

The peculiarities of each will be spoken of as their characteristics are described.

Voices.

VOICES are of two general characters—the voices of men, and the voices of women. These are again subdivided, according to quality and compass. The several qualities of voices are distinguished by the following titles:—

I.

| | | |
|--------------------------------|---|------------------|
| Soprano or Treble | } | Voices of women. |
| Mezzo-Soprano or Second Treble | | |
| Alto or Contralto | | |

2.

| | | |
|-----------------------|---|----------------|
| Alto or Counter-Tenor | } | Voices of men. |
| Tenor | | |
| Bariton | | |
| Bass | | |

For the present purpose, the compass or range of the several voices is all that need be spoken of.

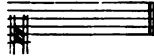
1. The SOPRANO or TREBLE voice has a compass of the following extent :—



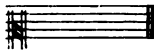
with all intermediate semitones.

There are some voices of greater range capable of singing outside the above limits, but they are exceptional, and such as are not likely to be met with among ordinary chorus singers.

In old music the Soprano part was written with the C clef placed upon the first line of the stave :—



2. The MEZZO-SOPRANO part, in old times held to be three notes less in compass than the Soprano part proper, was written with the C clef also, but which was placed upon the *second* instead of the first line :—

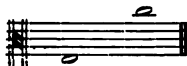


The Treble or G clef is that most usually given in the parts for these voices nowadays.

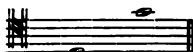
3. ALTO or CONTRALTO parts for female voices are often written in the Treble clef. The voice is of the following range :—



4. ALTO or COUNTER-TENOR parts for male voices are written sometimes in the Treble clef, sometimes in the clef proper, but the compass of the voice is less extended in the upper register than in the female contralto, while the lower notes of the voice, being usually produced from the chest, are capable of bringing more power. An Alto part for male voices may be written within the following compass :—

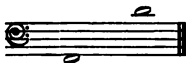


5. The TENOR voice for chorus purposes has the following useful extent :—



Solo parts for the voice may be written a note higher, but not any lower than the above range.

6. BASS and BARITON voices generally combine in chorus, the compass of their parts being



It will be found that the most useful parts of every voice are those which can be written on the limits of the staff proper to the voice, the extremities should only be employed in exceptional effects—the higher for noise, the lower for solemnity.

Verdi has introduced a chorus, the several parts of which are sung *con bocca chiusa* (with closed lips), in the last act of *Rigoletto*, to imitate the moaning of the wind.



The effect by like means has been written by several other modern writers, as well in operas, in oratorios, and in sacred and secular pieces.

The Orchestra.

1. A certain proportion, according to fancy or convenience, of violins, violas, violoncellos, and double-basses, with a flute, clarinet, oboe, and bassoon, constitute what is called a *complete* orchestra.

2. A larger number of stringed with two each of the above-named wood wind instruments, with two or three horns—never less than two—with two trumpets, three trombones, and a pair of kettle-drums, make a *full* orchestra.

3. A still larger number of stringed, a like quantity of wind instruments, wood and metal, with kettle-drums, long drum, and cymbals, triangle, and sometimes cor-anglais, basset-horn, piccolo, and double-bassoon, and often with a complete military band added, form a *grand* orchestra.

The first, without the clarinet, is generally sufficient for the performance of most works written before the middle of the last century; the second, with occasional trifling additions or omissions, is all that is needed for many of the scores of Haydn, Mozart, Beethoven, or Schubert; and the third is the arrangement usually found to be needful—of course with voices, solo, and chorus added—for the due performance of modern operatic works such as those by Meyerbeer, Verdi, Wagner, or Gounod. A description of the instruments employed in a military band will form the subject of a special reference.

The Disposition of a Score.

THE method of scoring occasionally adopted by the old masters saved a considerable amount of trouble, for having written their music for as many voices as they chose, they named the

instrument which was to play in unison with a certain voice, orchestral colouring being reserved for future discovery and use.

Although the attempt had been made by Lully in the seventeenth century, few other writers before Handel treated their instruments as capable of producing varied effects. Examples of the employment of both styles may be found in the score of his oratorio *The Messiah*, in *Saul*, and in *Israel in Egypt*.

Haydn, the father of the modern orchestra as he is often styled, arranged his score, as shown in his oratorio *The Creation*, in the following order, beginning at the top :—

Drums
Trumpets
Trombones
Clarinets
Horns
Hautboys
Flutes
Bassoons
Violins, &c.
Voices
Double-bass.

Mozart wrote his scores thus :—

Timpani
Trombe—Clarini
Corni
Clarinetti
Flauti
Oboe
Fagotti
Violini
Viola
Voci
Celli e Bassi

Schumann sets out his scores sometimes as follows :—

Pauken (Drums).
Trompeten (Trumpets).
Hörner (Horns).
Flöten (Flutes).
Hoboën (Oboes).
Clarinetten (Clarinets).
Fagotte (Bassoons).
Posaunen (Trombones.)
Violine (Violin).
Bratsche (Tenor).
Stimmen (Voices).
Violoncell (Violoncello).
Contrabass (Double-Bass).

The order now generally observed is that usually employed by Beethoven, namely :—

Flutes
Oboe
Clarinets
Bassoons
Horns
Trumpets
Trombones
Drums
Violins
Violas
Voices
Violoncellos
Double-Basses
Organ (if used)

In concertos for particular instruments, the solo part is often placed in the position here occupied by the voices.

When the instruments are introduced, they should be placed among the class to which they belong according to pitch. Thus the Piccolos and small Flutes should be placed *above* the

Flute parts. The "Cor-Anglais" should be placed below the Oboes, the "Basset-Horn" below the Clarinets, the "Double Bassoon or Contrafagotia" below the Bassoons, the "Cornet-à-Pistons" *above* the Trumpets, the "Ophicleide and Bass Tuba" *below* the Trombones. Triangles, Tambourines, Bells, Big Drum, and Cymbals *above* the Kettle-drums; and all other added instruments wherever the composer pleases.

STRINGED INSTRUMENTS PLAYED WITH THE BOW.

THE Quartett for the Strings is the foundation of all scoring, all the other instruments of the orchestra may be said to be the local colouring of which the quartett is the drawing in black and white. It is best for the student to write the complete harmony for the strings as a rule, and to study how effects may be gained out of the use of simple material by a careful perusal of the trios, quartetts, and quintetts of such masters as Haydn, Mozart, Schubert, Beethoven, Schumann, Mendelssohn, Raff, Brahms, and others. It is by no means a bad practice to take a pianoforte arrangement of any one work, and to score it for strings, and then to compare the result with the master's own work. The comparison may be a little disappointing at first, but the amount of practical knowledge and skill thus acquired will be of the greatest value ultimately.

Having written many exercises after this manner, he is recommended to score an arrangement for wind instruments alone, and then for both wind and strings in combination.

For those mistrustful of their own powers of invention, the practice of making scores from separate parts as well, is not unlikely to be of some degree of profit.

Side by side with this more or less mechanical labour, the student should endeavour to express his own thoughts through the voices of orchestral instruments. At first he should set

down his ideas in a pianoforte score, until he has grown able to take his scoring paper at once. He should not be disheartened by many failures: continual practice and the right use of experience will bring with it facility. Care and patience will conquer most difficulties, and repeated trials will make all strangeness to disappear in time, and enable the student to become a master, more especially if he will remember to his comfort that the greatest masters were students in their time. Fertility and facility come of hard labour, and there is no power of genius that can be made to obey the will of the possessor without courting and much seeking.

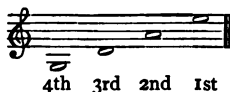
In the following description of the powers and usefulness of the Violin family, as indeed of all the instruments to be spoken of, it is not meant that the student should receive this work as exhaustive, it is simply intended to be suggestive, to form a basis or ground upon which a structure may be raised according to taste or fancy. A more extensive knowledge of the resources of instruments may be learned from the several instruction books in existence, or the larger treatises on scoring. The best help for the student is that gained by himself in the hearing of many works, by which means he can best add to his stock of experience.

The Violin.

THE VIOLIN, the chief of this group, is, without question, the most important of all orchestral instruments. It is capable of the greatest variety of expression, and, moreover, its construction and method of performance enable the player to endure with less fatigue for a longer time than that which is possible when wind instruments are used.

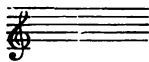
For this reason the Violin has been called the "backbone of the orchestra," a term which forcibly, if inelegantly, describes its value. It can either be made paramount or subservient, and in either case is equally valuable and effective.

It is provided with four strings—three of gut, and one of gut covered with spun wire, which are tuned to the notes and pitch as follows :—



The highest in pitch is called the first string, or in French “chanterelle,” and the fourth is sometimes called the “silver string,” from the character or colour of the wire with which it is covered, or the strings are spoken of according to their numbers as given above.

Most modern music is written in the Treble clef in its ordinary position for the Violin, though in former times the clef placed upon the first line was not infrequently employed :—



In this position it was called the French Violin clef.

The fingering of the Violin is called “stopping.” *Single* when one string only is used, *double* when two or more are brought into play.

The character and quality of the several strings are said to be of affinity with certain of the wind instruments used in the orchestra. Thus, the tone of the fourth string is likened to the horn, that of the third to the bassoon, that of the second to the oboe, and that of the first to the flute.

For the purposes of the orchestra the Violins are usually divided into two sections—first and second, each having a separate part in the score. The first Violins usually play the higher part, melodic phrases, &c., and the second often chords and arpeggios, as accompaniment. It is not, however, unusual to find the parts interchanging the one with the other for the sake of effect, as in many of the quartetts of Haydn and Mozart; the *Allegro* of the overture of *The*

Caliph of Bagdad, by Boïeldieu ; the first movement of Beethoven's *Pastoral Symphony*:—

FIRST VIOLIN. VIOLIN PARTS ONLY GIVEN. BEETHOVEN.



SECOND VIOLIN.

in the "Notturmo" in the music by Mendelssohn to *A Midsummer Night's Dream*, and in numerous other works which the student may have pleasure in finding for himself.

The compass of the Violin is unusually extensive, namely, between



with every intervening chromatic shade.

As the production of the notes of the higher register requires special skill and ability, it is best for the student to confine himself to the use of the ordinary orchestral compass:—



For particular effects, one string alone is sometimes employed, the similarity and unity of the character of the one string having often a very fine result—each string being capable of producing a series of sounds of two octaves in extent. A fine example of the use of the fourth string alone may be found in the introduction to the last act of Meyerbeer's *L'Africaine*, and in many other compositions.

Among the many effects which the student may employ as an alternative, the easiest and most telling is the redu-

plication of the notes of a melody, or the employment of syncopation.

FIRST VIOLIN. MOZART'S *Requiem*.

SECOND VIOLIN.

The notes of the higher octave ought only to be used in *fortissimo* passages. As the production of the upper series of notes demands a change of the position of the hand, care should be taken not to write passages which do not "lie well under the hand," as the technical phrase goes. Experience and the study of the works of the great masters, more especially those who were violin players themselves, such as Spohr, should serve as the best guides to the student.

Chords upon the Violin are very effective in passages where strong emphasis is required, or at the conclusion of a *coda*. As a general rule, they should only be sparingly employed, for it is better to break up such chords as the Violin is capable of playing into arpeggios. For example, such chords as

It will be as well for the student to refrain from writing arpeggios at a very quick pace, as there is always a difficulty in getting them played by a large body in time as well as in tune. Scale passages, called *traits des violons*, for stringed instruments, such as those in the chorus "Thanks be to God" in Mendelssohn's *Elijah*, and in Beethoven's *Leonora*, No. 3 Overture, are comparatively easy and entirely effective.

There are also other effects common to instruments of the Violin family, which may be occasionally employed with good result. The chief of these are the *tremolo*, the mute or *sordino*, the *pizzicato*, *sul ponticello*, the harmonic tones, the *saccade*, the waving sound (*sons ondules*), the *staccato*, the *spiccato*, *détaché*, &c.

The mute or *sordino* is a little instrument of bone, wood, or metal constructed to fit upon the bridge of the Violin, &c., and has the effect of *damping* or deadening the sounds, and at the same time making them of a somewhat nasal quality.

The mute is generally employed for masses of Violins. Examples of the use of this effect are very frequent. The "Representation of Chaos" in Haydn's *Creation*, the "Villanella" in Meyerbeer's *Huguenots*, the "Andante" in Mozart's *Concerto in E flat*—



offer good examples for study.

When the effect is required it is indicated by the words *con sordino* (with the mute), the contrary effect by the words *col arco* (with the bow). A slight pause, or a rest of a bar or so, ought to be arranged between the two effects.

The mute may be used for all bowed stringed instruments except the *Double-Bass*.

Detached or forced accent is very effective :—



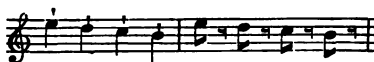
The waving sounds (*les sons ondules*) are produced by marking a *crescendo* upon each beat which a long note is capable of being divided into, without the bow leaving the strings :—



The *spiccato* is the shortening of the sound of the notes as written :—



The *staccato* is a similar effect, but with the rests between the notes of longer duration :—



The *spiccato*, like the *staccato*, shortening of the sounds as written, is generally played with the point of the bow.



The *tremolo* is made by drawing the bow lightly and rapidly over the strings, either in single or double stopping. The sounds of the lower register in *tremolo* express inquietude and unrest, and those of the upper register, agitation and excitement.

The usual way of writing a *tremolo* passage is as follows :—



Some writers regulate the number of added strokes to the note required to be played *tremolo* by the time of the movement, giving two for *Allegro*, three for *Andante*, and four for *Adagio*.



The most reasonable plan would seem to be that which gives as many marks as would correspond with the number of tails possessed by the note into which the division is desired to be made.

The *pizzicato* (plucking of the strings with the fingers) has an excellent effect. It may be used for passages of every kind—scales, chords, arpeggios, or single notes. As in the overtures to *Semiramide*, *Dinorah*, &c., so frequently is the effect employed that, if it were needful, many hundreds of examples might be quoted out of every class of instrumental music.

Sul ponticello (upon or near the bridge) is a flute-like effect produced by drawing the bow lightly over the strings, at a point nearer the bridge than usual. The following is the sort of passage most effective *sul ponticello* :—



The *harmonic tones*, or *flageolet tones*, are produced by lightly stopping with the finger on certain divisions of the strings; they are more useful in solos than in concerted pieces.

The *saccade* is made by pressing the bow heavily and strongly upon the strings in performing a phrase in sequence, so that an accent is given to every note. There is another effect, expressed by the words *col legno* (with the wood), in which the strings are beaten with the back of the bow. The effect is wild and almost savage, as in the "Adamastor" song in Meyerbeer's *L'Africaine*, Rossini's attributed overture *Robert Bruce*, &c.

If it is desirable to give a strong yet expressive prominence to a melody, one of the most ready and satisfying means to this end is that shown in the following passage, where the melodic phrases are doubled by the Violins at the distance of an octave apart :—

No. 6. VIOLIN PARTS ONLY. MOZART.

Allegro.

SECOND PART.

It is a mistake to make the Violins play always in unison with a single vocal part : the effect is monotonous, and displays a lack of resource on the part of the writer.

If the subject does not require or will not admit of elaborate or independent melody it is advisable to break up the accompaniment into *arpeggios*, *tremolos*, syncopations, or other devices which may suggest themselves to the fancy of the writer, as in the following instances—the first from a *Magnificat*, by Mr. E. Prout ; the second from Spontini's *Vestale*.

CLARINETTE IN B. PROUT.

FAGOTTI.

FIRST VIOLIN.

SECOND VIOLIN.

VIOLA.

SOPRANO SOLO.

For be - hold from hence-forth all ge - ne - rations shall call me blessed.

BASSI. *cres.*

FAGOTTI. "LA VESTALE," SPONTINI.

FIRST VIOLIN. *Sua alta.*

SECOND VIOLIN.

VOICE.

Un nu - a - ge à mes yeux s'é - tend sur l'a-ve-nir

HARMONICS OF THE VIOLIN.

Harmonics are formed from the natural course of sounds which every open string or tube is capable of producing. Thus, supposing the normal tone or generating sound to be C, the harmonics would be the following :—



Of the value of these sounds in certain wind instruments, more will be said in the proper place. Of the use of these sounds in stringed instruments, a few words here may not be considered unnecessary.

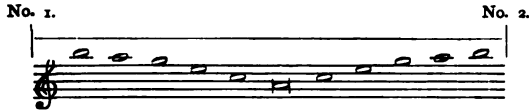
On stringed instruments there are two sorts of harmonics—the natural and the artificial. The natural are those produced by dividing the string at certain distances by placing the finger lightly on the point of division ; and the artificial are produced by stopping the string on the note required with the forefinger, while at the same time the little finger rests lightly on the string in the position it would naturally occupy.

The octave in natural harmonics may be produced by stopping the string lightly at exactly half its length. If from that point of division the string is again divided, a higher octave is obtained, and still higher octaves may be found by dividing the remaining portions of the string in halves *ad infinitum*.

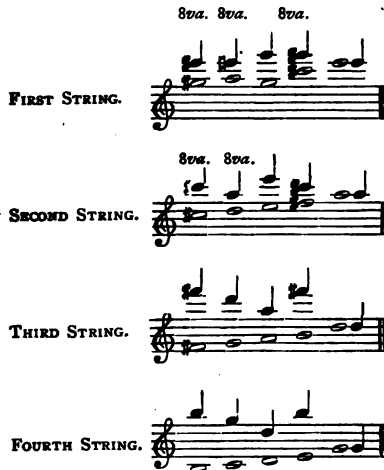
It is a remarkable thing to note that this series of increasingly acute octaves may be obtained on either side of the divided half string, and also that other intervals produced in harmonics become acuter as they near the bridge as well as the nut point.

Supposing the horizontal line below to be the string of a violoncello, and the two perpendicular lines the nut (r) and

the bridge (2), the harmonics produced by drawing the bow lightly over the string as the finger is smoothly slid along its length, would be somewhat after the following proportion in notes :—



The chief available natural harmonic sounds on each string, and the position of the finger, or rather the portion of the string to be stopped, are shown below—the harmonics being shown in crotchets, and the part of the string which should be touched in semi-breves :—



The artificial harmonics are obtained by pressing the fore-finger upon a certain part of the string, and the little finger at a certain interval. If the minim be taken as representing the

note pressed, and the crotchet the note upon which the little finger is lightly laid, the harmonic produced will be shown by the quaver:—



Thus the octave lightly touched gives the *unison*, the fifth its *octave*, and the fourth the *twelfth*. There are many other harmonics of course, in point of fact they are infinite, but it is not necessary to speak of them here—all that are effective will be found in the above list. It may be needless to state that they are, for the most part, considered unavailable except in solos; and if the composer is not a violin player himself, it would be as well for him, before writing, to consult a violin player, or to study carefully the literature, musical or otherwise, upon the subject.

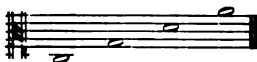
The Viola.

THE VIOLA, ALTO, ALTO-VIOLA, VIOLA DA BRACCIA, BRATSCHE, or TENOR VIOLIN, is the medium in tone between the Violin and Violoncello. It is furnished with four strings, the lower two of which are covered with metal thread.

The C clef on the third line is now employed for this instrument, though in the last century the C clef on the second line, the *mezzo-soprano* clef, was often used. As an example, the student is referred to the first volume of Croft's Anthems,

in which that to the words, "Rejoice in the Lord," is set in score, and has the Tenor Violin part written in the *mezzo-soprano* clef.,

The strings of the Viola are tuned a fifth apart, a fifth below the Violin and an octave above the Violoncello.



The usual compass of the Viola lies between the extreme notes—



with every chromatic note between.

Many writers divide the Violas in the orchestra, writing two separate parts, but these two parts are generally written on the same stave.



Sometimes two Viola parts are written upon separate staves, as in the aria, "Bending from Thy throne of glory," in Handel's *Susannah*.

It may be stated here, as a general rule, that every effect possible upon the "Violin," and described under that heading, is also possible upon the Viola, but the difference in the character of the tone of the instrument suggests a sparing use of many. The *tremolos*, *arpeggios*, *saccades*, &c., are very effective. The *harmonics*, though very beautiful, should only be sparingly used.

The tender, expressive tones of the Viola make the instrument valuable as a *concertante* accompaniment to vocal solos, &c., but it is often made to do comparatively unimportant

work when it is set to double a Violoncello part in a score, or to play simple arpeggio accompaniments. When it is brought a little forward in the enunciation of a solo phrase, as in the "Saltarello" in Mendelssohn's *Italian Symphony*, or in the part added by Mozart to Handel's air in the *Messiah*, "He shall feed His flock," as in the following piece, or in like places in other works, the effect is unmistakeably beautiful.

VOLINI.



It is a matter for regret that the instruments called Tenors which find their way into the orchestra are, as a rule, only overgrown Violins, and although they are strung according to the manner of Tenors, they have not the sonorous character of the true Tenor. The modification of size is probably due to the circumstance of convenience. If conductors of orchestras were to insist upon having a fair share of large Tenors to be played with the small ones, the proper balance would be obtained, and the distinct gap of tone noticeable in modern orchestras would be bridged over. At present the distinction is as fully marked as in a quartett in which boys with recently changed voices are set to sing the alto and tenor parts

Violoncello.

THE VIOLONCELLO is employed in the orchestra as well for accompaniments as for solos, and its value is almost as great as that of the Violin.

Like the Violin it is strung with four strings, but both pitch and compass are different. It is tuned as follows :—



The lowest, or fourth string, is sometimes called the *bourdon* or bass string, and the first the *chanterelle*. The others are reckoned according to their numbers as above, or called by the names of the notes of the pitch they are tuned to.

It is generally written for in the Bass clef, but the C clef on the fourth line and the Treble clef are also employed, the latter in solos for the instruments.

FIRST VIOLIN.

SECOND VIOLIN.

VIOLA.

VOCE.

Lied er - schalle Fei ernd Wall - e mein Ge

VIOLONCELLO.

as well as in the recitative immediately following, where the voice is accompanied only by the Tenors and Violoncellos :—

O wie hell die goldnen Sterne mit wie reinem Glanz die gluhn

When the Violoncello is used alone, or in an independent part, it is capable of the most beautiful effect, either in imitation of the voice, as in the Duet in the fourth act of the *Huguenots*—

PREMIER VIOLON.
Andante.

SECOND VIOLON.

ALTO.

RAOUL.
fs.

Oui, tu l'as dit, oui, tu m'ai . . . res.

VIOLONCELLE.
imites la voix.

CONTREBASSE.
fs.

or with a special part, as in Siebel's song in *Faust and Marguerite*, in which the plaintive nature of the theme is echoed in sad tones.

The Double-Bass without the Violoncello has a gloomy, turgid, and often a harsh and mysterious effect.

The ingenuity and skill of the composer are subject to little rule, and combinations, effects, and modes of using the forces at command, are almost as various as the minds of the writers.

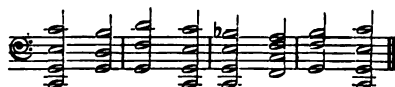
Composers have occasionally divided the Violoncellos of their orchestra into two, three, or even four different parts, as, for example, Mehul in the overture to *Joseph*, and Rossini in the overture to *William Tell*, which latter has been even written for five Violoncellos.

Rapid passages, of equal difficulty with those written for the Violin, are often given to the Violoncello, and arpeggios and double notes are frequently effective.

It is obvious that all the chords of which the instrument is

capable of producing will make equally practicable arpeggios, and, while it is possible to produce others, it is but reasonable that those will be played most effectively when they lie well under the hand.

For example the easy chords—



can be broken up into arpeggios—



Shakes and even double shakes are practicable upon the Violoncello, but it is best to reserve such effects for solo passages, as in *tutti* parts they are scarcely telling enough to justify their use. For a like reason harmonics should be sparingly used.

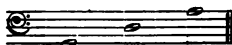
The *pizzicato*, or plucking the string with the fingers instead of playing upon them with the bow, is very effective; and certain bowing effects, such as those described in the article "Violin," *sul ponticello*, *con sordino*, *staccato*, waving-bowing and *spiccato*, *détachés*, &c., may be used on the Violoncello as on the Violin.

The Double-Bass.

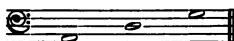
THE DOUBLE-BASS, called also *Contrebasse* or *Contrabasso*, is the largest of the Violin family, and the deepest in tone.

It has three and sometimes four strings, tuned in different ways according to the custom of the people by whom it is used.

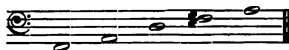
The old method, adopted in France and Italy, was to tune the three strings in fifths apart:—



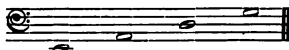
This gave the lower G so frequently found in old scores, which the players who preferred the following order of tuning were obliged to play inverted. The plan here alluded to was to tune the strings at the distance of a fourth :—



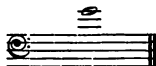
This is the tuning of the Double-Bass with three strings now used in England. The convenience of the system of fingering the Double-Bass tuned in this fashion led to the general adoption of the plan, but in order to get the right pitch for the notes as written by many composers, notably Beethoven in his *Pastoral Symphony* and elsewhere, the Germans retained four out of the five strings on their Double-Bass. They lowered the deepest and highest strings a whole tone each, and by this means gained additional compass with a less number of strings. The tuning of the old five-stringed Bass was as follows :—



The altered tuning, and that now customary on the four-stringed Bass, stands thus :—



The Double-Bass is usually written for from the lowest note according to the tuning as high as



The sounds actually produced are an octave lower than those written, hence the Double-Bass is said to be a transposing instrument—that is to say, one which apparently plays a certain set of notes, but really produces another.

The strings of the instrument being of great thickness, double-stopping is out of the question, and composers therefore confine themselves to writing single notes, and, except for

special effects, giving the more florid bass passages to the Violoncello.



Many of the effects capable upon the Violin are difficult, if not impossible, on the Double-Bass. There are also others which become intensified when given out by the greater instrument, as, for example, the *saccade* and the *pizzicato*; this last-named is especially fine, as in the following passage from the overture to *Der Freischütz*—the power of the *pizzicato* is here intensified in its lugubrious effect by the soft tone of the drum.

CLARINETS, B♭.

CHALAMEAU.

TIMPANI, C AND A.

FIRST VIOLIN.

VIOLAS. *p*

VIOLONCELLO. *p*

DOUBLE-BASS. *p*

pizz.

A musical score for the overture to Der Freischütz. It consists of seven staves. The first staff is for CLARINETS, B♭. The second staff is for CHALAMEAU. The third staff is for TIMPANI, C AND A. The fourth staff is for FIRST VIOLIN. The fifth staff is for VIOLAS, marked with a piano (p) dynamic. The sixth staff is for VIOLONCELLO, also marked with a piano (p) dynamic. The seventh staff is for DOUBLE-BASS, marked with a piano (p) dynamic and a pizzicato (pizz.) instruction. The music is in 2/4 time and features a variety of note values and rests.

The Double-Bass, as a rule, plays the same part as the Violoncello, only an octave lower, with the exception of the notes



according to the tuning of the instrument. These are played an octave above, therefore at the same pitch as the Violoncello.

As already stated, the Double-Bass, having a short bow and thick strings, is not very capable of effective rapidity in execution; it is, therefore, usual to give to it the first note of a group of rapid notes, or the root-note of a chord, by this means allowing it to mark the time, a power which it possesses in an eminent degree.



If the parts apparently cross each other, two separate lines should be used.



The sounds of the Double-Bass being an octave lower, the parts do not actually cross.

The student should ever remember that the strings of an orchestra form the mainstay and support of the body of tone, wind instruments being mostly employed as "colouring." It is, therefore, needful to repeat the advice already given, that it is best to confine the full harmony of the chords employed to the strings, excepting in cases where special effects are required. These effects taste, experience, and the demands of the theme must regulate.

That the strings alone are capable of fine dramatic effect the following quotation from Sir Frederick A. Gore Ouseley's oratorio *Hagar*, a portion of the scene in the desert, when the banished mother "When the water was spent in the bottle, and she had cast the child under one of the shrubs," will show.

"UNTO THEE LIFT I UP MINE EYES."

From the Oratorio of *Hagar*, by Sir F. A. GORE OUSELEY, Bart.

unto the hand of her mistress even so mine eyes wait up - on the Lord my

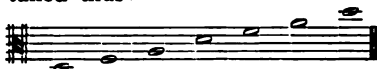
In many modern compositions the several groups of stringed instruments—Violins, Violas, and Violoncellos—are subdivided. The effect thus gained is often very marked, but the young student is cautioned against employing the device too frequently or for too long a time. If he has a large band at his disposal, the practice may be indulged in, but even then only cautiously, for the division of masses can only tend to weaken the general effect. How, and in what manner the thing may be done, Weber's overture to *Euryanthe*, and that to Wagner's *Tannhäuser*, will show as far as the Violins are concerned. With the Violas the practice is common, and by no means bad. With the Violoncellos it is as rare as with the Violins, very few composers caring to hazard the result. One of the chief, if not the chief example of this sort, will be found in the overture to *William Tell*, by Rossini, where a short motive occurs for five Violoncellos soli, already spoken of.

INSTRUMENTS OF OCCASIONAL USE.

The Viole d'Amour.

THIS is a stringed instrument played with a bow. It is now almost obsolete, despite the efforts of Meyerbeer to perpetuate its use by writing a special part for it, as in his *Huguenots*, a part which is now usually played on the Tenor Violin.

The Alto clef is the one chosen to express its compass, excepting when the first string is required to be much used, in which case the Treble clef is superadded. It is mounted with seven strings tuned thus:—



and may be played with a compass between the following notes, with all chromatic intervals:—

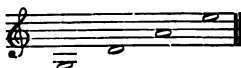
*The Mandoline*

CAN only be called an orchestral instrument by reason of the fact that Mozart has written a special part for it in *Don Giovanni*; as the instrument is not generally studied, the part is played by the Violins *pizzicato*.

The compass of the MANDOLINE is the following:—



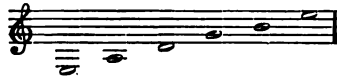
It has four strings tuned like those of the Violin in fifths:—



It produces sound at the pitch indicated.

The Guitar

Is a transposing instrument, for although its six strings are written for thus—



its real pitch and compass may be represented as follows:—



It is very rarely used in the orchestra, although Rossini and Mehul have each written parts for it, and Goetz has introduced it in his opera *The Taming of the Shrew*. As a solo instrument, and an accompaniment to the voice, it is very pleasing and of a joyous tone.

The Harp.

THE HARP is very frequently introduced into the orchestra in modern scores, either for the purpose of giving a characteristic colouring to the accompaniment of a vocal piece, as in Verdi's opera, *Il Trovatore*; as a bright contrast to the usual orchestral tone, as in Donizetti's *Lucia di Lammermoor*, in the *scena d'entrata* of the heroine; or as the expression of joy and exaltation, as in Tannhäuser's song in Wagner's opera of that name.

It is written for as the pianoforte with the Treble and Bass clefs, as both hands can be used in playing. Its compass extends thus:—



with every intermediate semitone.

It is, however, suggested that the compass between the notes as they stand, without the extra octaves, should be that most generally employed as being most useful and effective. The harp singly, or in combination with others, has a very good effect at any time. The harmonics of the strings are also very sweet.

Pianoforte.

THOUGH the PIANOFORTE is often used for concertos and sonatas in combination with other instruments, and may be employed in like manner, as it is at St. Paul's Cathedral in Holy Week to accompany the recitatives in Bach's *Passions Musik*, it cannot, strictly speaking, be called an orchestral instrument. Its use and compass, therefore, need not be described here.

The Harmonium.

THIS instrument is sometimes employed as a substitute for wind parts in a small orchestra, but it is not necessarily an orchestral instrument, while for the purpose of playing solos its monotony of tone, how many soever may be the number and named variety of stops with which it is furnished, renders it insufferable for more than five minutes at a time.

The Organ.

THE ORGAN, when it is available, is best used to strengthen the *tuttis* and *forte* passages in choruses. Its peculiarity and special quality of tone does not permit it to mix agreeably with the instruments of an orchestra, as the players of organ concertos with band accompaniments have probably by this time discovered.

WIND INSTRUMENTS—WOOD.

TAKING the WOOD WIND INSTRUMENTS in the order of their acuteness of tone, the following is the order in which they should be spoken of:—

Piccolo

Flute

Oboe or Hautboy

English Horn (Cor-Anglais, Corno Inglese)

Clarinet

Basset-Horn (Corno di Bassetto)

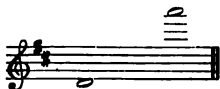
Bassoon

Double-Bassoon.

Of these, the Piccolo, Flute, Oboe, Clarinet, and Bassoon are most in use, but as more than one of the most eminent composers have employed the other instruments, and as there is, moreover, a growing desire to revive their use—for they possess many claims to consideration—a short description of their value and character will be given in due course.

The Piccolo.

THE PICCOLO, properly speaking *Flauto Piccolo*, has D for its normal key, the same as the Flute. It has a considerable compass:—



with all the intervening semitones. There are also instruments mounted with keys, by means of which the lower C or even B natural may be obtained.

It is written for in the Treble clef, but the notes sounded are an *octave higher* than those put on paper.

It is sometimes employed alone, sometimes in pairs. The

tone is lively, piercing, and spirited ; its shakes, especially in the upper register, are bright and joyous.

Like the Flute, it is capable of playing in any required key, and therefore it is customary to write for it with the proper number of sharps or flats the signature requires.

It is one of the most useful and versatile instruments in the orchestra ; it imparts at one time a frolicsome character to passages in which it is employed, as in the overture to *Semiramide* ; at another its effect is that of mockery, as in the aria " Life is darkened o'er with woe," in *Der Freischütz* ; in one place it may be used with a soothing, picturesque, pastoral effect, as the dance in David's *Desert* ; at another time it has a trenchant, savage character, as in the " Benediction of the Daggers," in Meyerbeer's *Huguenots*. The voices of birds, the whistling of a sharp sword through the air, the shrieking of the storm, the wild languor of an Eastern dance, may be each and all indebted for much of their distinctive character to the powers of the Piccolo.

It may also be made to play an important part in military music, but occasion will be taken to speak of this phase of its character later on.

There are other sorts of Piccolos, one in which the normal key is E flat, another having F for primary key, but the music written for these instruments presumes it to be in the normal key of D, although the notes actually produced are higher ; for example, the written passage—



These last named instruments are occasionally employed in keys of affinity to their normal pitch to save complicated fingering. It is not, however, usual to indicate the Piccolo required in the score.

The E flat Piccolo may be used in the keys of B flat, E flat, A flat, D flat, and G flat, the notation for these keys being A, D, G, C, and F, respectively.

The F Piccolo may be used in the keys of C, F, B flat, &c., on the same plan. These keys, of course, include the relative minors.

As a rule the Piccolo is employed to double the flute parts where special effects are needed, but it is advisable not to use it too frequently, or for too long a time at once, because of the shrilly character of the tone.

The Flute.

THE FLUTE, sometimes called the GREAT FLUTE, can, by means of keys and its natural harmonics, be made to play in any key, and, therefore, though it is said to have D as its normal key, all keys are alike normal.

It is written for in the Treble clef with the necessary sharps or flats as required, and performs the notes at the pitch indicated.

The compass of the Flute is as follows:—



with all chromatic intervals.

There is a considerable difference in the quality of the tone of the Flute in the course of its compass, the lower octave having a veiled, muffled tone, and the four or five highest notes being shrill and sharp.

For this reason extremes are rarely used except for special effects, some of which will be pointed out presently.

The student is advised to write for the middle of the compass for general purposes.

Two Flutes are usually employed in the orchestra, one stave serving for both. As the parts played by the Flutes are frequently higher than the first Violins, care should be taken not to give them passages which violate the rules of musical composition.

If it is desirable that the portion of any melody played by the Flutes should be rendered prominent, the two should be made to play in unison an octave above the Violins. If only one Flute is available, all melodies intended to "stand out" should be doubled with some other treble instrument.

Shakes and turns are practicable upon most of the notes of the Flute, with these exceptions, between C sharp and D sharp, and C and D flat in either octave. Shakes are, however, rarely written for notes below



unless for special effects.

The tone of the Flute in the octave below the above note is solemn and prayerful, in passages of similar character with the prayer "Softly Sighs," in *Der Freischütz*. It may also be made dreamy and sensual in effect, as in the following passage from Bizet's *Carmen* :—

FLUTES.

GUITAR.

For a soft, gentle, soothing, and winning effect, produced by the lower of the medium notes of the Flute, there is scarcely a better example in the whole range of musical literature than that found in the Andante in Mendelssohn's *Italian Symphony*.

The Flute is frequently used to imitate the voice of birds, as in Handel's air "Sweet Birds," in *Il Penseroso*, Bishop's song, "Lo! here, the Gentle Lark," "Pretty Mocking Bird," &c. Each of these songs is written for a soprano voice, and the union and contrast of Voice and Flute are extremely agreeable.

Many of these "bird-like" effects are due to what is called *double-tonguing*, a method of execution which enables the performer to repeat with rapidity any tone required:—



actually sound



The notation for the instrument is the same as for the ordinary flute, and the best keys for it are C, F, B flat, E flat, A flat, and D flat, with the relative minors.

It must be remembered that, in order to obtain these keys, the several pieces must be written in the signature of a minor third below. Thus for C, F, B flat, E flat, A flat, and D flat, the student must write in A, D, G, C, F, and B flat.

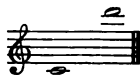
The Flute is not an indispensable ingredient in the composition of an orchestra, as many eminent writers have shown. Mozart, for example, does not use it either in his *Requiem Mass* or in the *Symphony* No. 6 (Op. 34), in C.

The Oboe.

THE OBOE, or HAUTOBOY, is an instrument the tone of which is produced by means of a double reed. Its tone is piercing yet expressive, and in the hands of a skilful artist may be made one of the most beautiful instruments in the orchestra.

It is commonly used in pairs, the two instruments having one stave in the score. The Treble clef is employed for the Oboe part, and, as it is capable of being played in any key, the signature of the key required is placed in the usual way.

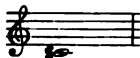
The usual compass is the following:—



with all chromatic intervals. For some solos the compass may be extended to two tones more.

As with most wind instruments, the extremes of the scale of the Oboe ought to be very cautiously used, because they are difficult of intonation, and of mirth-provoking quality when produced.

There are one or two other troublesome notes for the player, and these ought to be avoided if possible. The first is the lower C sharp.



The next is the G sharp or A flat in rapid passages—



The next the C sharp and D sharp or D flat and E flat in phrases like



or



Although less difficult to produce, the B flat at the same pitch should only be used in slow passages—



For these reasons it is better to avoid writing rapid phrases in the lower part of the instrument in the keys of A, E, B, E flat, A flat, D flat, and their relative minor modes, such as the following :—



If the *tempo* is slow, such passages might be managed, but as they are at best but unsatisfactory, it is as well not to write for them.

All shakes between these notes are, of course, impossible, but they may be written on all other notes of the scale with safety. Although the Oboe, with the above exceptions, is capable of executing some passages of music as quickly and as easily as the Violin, the student should be satisfied with comparatively slow phrases from this instrument; and here it may

be noted, as a general rule, that the passages for wind instruments should be such as require less quickness of fingering than stringed instruments, because the production of the tone by the breath is a matter of more trouble to the player than the motion of the arm in bowing.

The solos, and other portions of distinct melodies, are given to the first. Slow and sustained passages are best suited to the instrument. It was formerly the custom to make the Oboe play in unison with the first treble part in choruses, but the effect must have been exceedingly monotonous and colourless in a long piece. If, however, only occasional sentences are given out by the Oboe, the ear, unaccustomed to the acidity of the tone, welcomes it with surprise and pleasure. Nothing can be more beautiful than the entry of the Oboe after this kind, as in such a movement as the Andante in Mozart's *Jupiter Symphony* :—

Horns in F.

Oboe.

First Violin. *Con sordini*.

Second Violin. *Con sordini*.

Viola. *Con sordini*.

Bassoon.

Bassi.

Expressive and plaintive melody has a charming effect upon the Oboe solo, as in the following from Dr. Stainer's cantata, *The Daughter of Jairus*:—



The Cor-Anglais.

THE COR-ANGLAIS, or CORNO INGLESE, as it is sometimes called, is a larger sort of Oboe of English origin, hence its title. Strange to say, it is never spoken of but by the titles given above, even by English writers. It is written for in the G clef, but the tone produced is a fifth lower than the apparent notes.

The real compass of the Cor-Anglais is the following—



with intermediate semitones as in the Oboe. But as the Treble clef is used, and the instrument transposes its nominal notes, to produce the effect of these sounds the notation would have to be



When the lower register is continuously employed the Bass clef is used.

Meyerbeer has introduced the Cor-Anglais frequently in his operas; Rossini also employed it in the overture to *William Tell*; Beethoven wrote a trio in C major for two Oboes and a Cor-Anglais, by some called Op. 87, by others Op. 29; Gluck introduced it in his operas *Télémaque* and *Orphée*; Halevy has written parts for two Corni Inglesi, in *La Juive*; Wagner in the first act of *Tannhäuser*; Cherubini an *obligato* part in his *Ave*

Maria; and Sullivan has in more than one instance introduced it in his writings, and it is worthy of still more extensive use.

The second Oboe player usually takes the Cor-Anglais when it is required, as the fingering and production of tone are alike on both instruments, and all the difficulties which exist in the one are present in the other.

The Clarinet.

THE CLARINET, like the Oboe, is a reed instrument, but the reed is single and quality is entirely different. It is softer in tone, and the higher notes being made of the harmonics whose series are in the proportion of 1, 3, 5, 7, and not 1, 2, 3, 4, as in the Oboe, this makes the first overtone at the twelfth from the lowest note.

The Clarinet is written on the Treble stave generally in the key of C, for by reason of the difficulty arising from its character, alluded to above, it can only be made available in a few of nearest relative keys to C, its presumed normal scale.

There are, however, two other Clarinets employed in the orchestra whose normal pitch is respectively A and B flat; by means of these three instruments all usual keys are practicable to the player, as will be shown presently.

The compass of the Clarinet is as follows:—



with all chromatic intervals, some of which are, however, more difficult to produce than others, and therefore the student is warned to be careful in writing them.

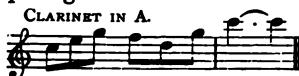
The most difficult and the least pleasing, because they are not strictly in tune, are such passages as the following:—



They must never be written unless with the accompaniment of a full orchestra to cover their untunefulness.

Other shakes are possible, but very few are completely satisfactory on the Clarinet. The best keys for the Clarinet are C and F, that is to say relatively C and F, for with the different instruments the pitch is different.

The Clarinet required should be named at the commencement of a movement; thus, Clarinet in A, B flat, or C as the case may be. The Clarinet in A transposes the notes a minor third. Thus the passage—



would sound



and the Clarinet in B flat performing the same phrase would give the effect of



If, therefore, the player confined himself to the C and F in these Clarinets, he would be able to perform easily and effectively in the keys of C and F with the C Clarinet, in A and D with the A Clarinet, and in B flat and E flat with the B flat Clarinet, together with the relative minors of these keys. But by judicious management, provided also that the music is written with a knowledge of the capabilities of the instrument, no key is absolutely out of reach.

Thus with one or two flats or sharps in the signature, the list of keys in which the Clarinet can be played comfortably is considerably extended.

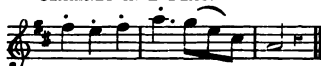
The C Clarinet can play in C, G, and F; the B flat Clarinet in B flat, E flat, A flat, F, and C; the A Clarinet in A, D, E, and B, together with, in each case, the relative minor of each of the above-named keys.

It must be distinctly understood that all the passages quoted above as difficult on the C Clarinet are equally difficult on the other instruments, the difference of the normal tone shifting the difficulties only, not removing them.

There are Clarinets in other keys, but they are rarely used; in fact, if a player has an instrument to which he is accustomed, he prefers to retain it and to overcome by skill the difficulties of the several keys.

Experience has shown that the B flat Clarinet is of the most satisfying character of tone, and composers very frequently write for this even when the composition is in the key of C.

CLARINET IN B FLAT.



which would sound as though played



Another peculiarity of the Clarinet is found in the fact that it possesses three distinct registers, or rather qualities of tone, each of which may be used for the production of separate effects. The first is called the Chalameau part, and includes all the lower notes up to



The second is the medium, and has for its extent all notes between these two



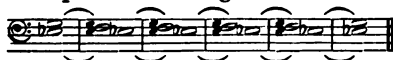
Some writers call this the "Clarion," or trumpet portion of the instrument. The last register is that contained in the remainder of the compass.

The "Chalameau" part is usually written an octave higher than it is intended to be played, the performer being made

aware of the desire of the composer by the insertion of the word.



The real sounds produced being



Arpeggios in the Chalameau part are very effective.

The medium register is of very bright quality, and the upper somewhat piercing, so that no little degree of attention and skill is necessary in using it that it may not be disagreeable. The medium part of the Clarinet is that which should be employed in general compositions.

It should be stated that by the improvements made by Sax, many of the difficulties have been overcome; but as the instruments constructed upon his plan are not in the hands of every player, the caution necessary in writing still holds good.

The Bassett-Horn.

THE BASSET-HORN (Corno di Bassetto) is written for in the Treble clef like the Clarinet, but as the sounds it produces are a fifth lower than written, it has been with some show of reason called the Tenor Clarinet, and while apparently performing in the key of C it is really giving out the notes of the scale of F. Its actual compass is



but the notes as written would appear thus:—



It has the usual chromatic intervals, but notes that are for

bidden or only cautiously used on the Clarinet are subject to like restrictions on the Basset-Horn.

The extremities of the compass, whether high or low, are best avoided.

Mozart has left some fine examples of the manner in which it can be employed effectively in his *Requiem*, as well as in his operas *Die Zauberflöte*, *Clemenza di Tito*, and *Le Nozze di Figaro*.

The Bass Clarinet.

THE BASS CLARINET, whose normal tone is B flat, an octave below the ordinary B flat Clarinet, is written for in the Treble clef, but the real sounds given are a major ninth below those written. Its compass is as follows :—



The compass is as follows:—



with all chromatic intervals.

Some players can even produce four or five notes higher, but their tone is harsh and unsatisfactory. Except for slow passages the lower notes



are best avoided—in fact, some instruments which still exist are incapable of producing the B natural and C sharp at all.

The Bassoon can be played in any key without transposition, but the best, because easiest, keys are C, F, B flat, E flat, G, D, and A, with the several relative minors. If other keys are employed it is necessary to give only an easy part to the instrument.

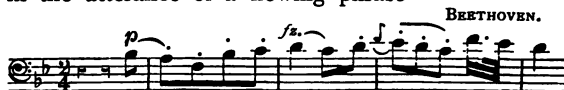
A pair of Bassoons are usually employed in a score, one stave serving for both: the two bear the like proportion as to effect as the Violoncello and Double-Bass among strings.

The sustained sounds of the Bassoon are of beautiful, often melancholy and sad effect, and the *staccato* tones are humorous even to comicality.

Passages of thirds are very telling on the Bassoons—



and in the utterance of a flowing phrase—



the instrument has an effect almost equal to that of a well-trained and melodious human voice.

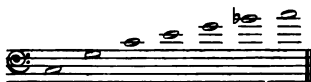
WIND INSTRUMENTS—BRASS.

THERE are several BRASS WIND INSTRUMENTS employed in the orchestra independently of those which are considered as belonging exclusively to a military band.

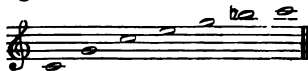
The principle upon which they are constructed is the same in every case—a hollow tube. The difference in the tone of the several instruments depends (1) upon the length of the tube, and (2) upon the diameter of the tube.

Every tube is capable of sounding its tonic and certain of the primary harmonics. The lips of the player form a temporary reed, varying in tension according to the pitch of the note required to be produced. These primary harmonics are called Open Notes.

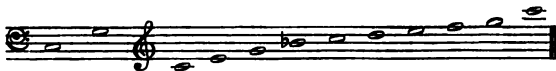
The open notes of a short tube are:—



These, for the sake of convenience, are written in the Treble clef, an octave higher than the real sounds:—



If a tube double the length is used, an additional octave may be obtained with a few additional notes.



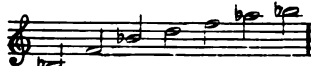
The B flat on the short tube and the F on the longer tube are difficult notes to get, and, moreover, are not quite in tune.

By means of valves or slides the sounding tube of a brass instrument may be lengthened or shortened at pleasure, so that other keys than those in which the instrument stands normally may be played.

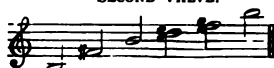
VALVED INSTRUMENTS.

INSTRUMENTS as the Cornet-à-pistons, Sax-horn, &c., are usually furnished with three valves. Reckoning the normal tone of the instrument as C, the notes produced by means of the several valves are the following :—

FIRST VALVE PRESSED DOWN.



SECOND VALVE.



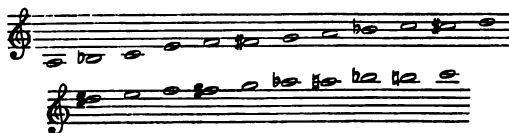
The first and second valves down produce the same series of harmonics as the pressure of the third valve alone gives.

Many instruments are made with two valves only; these are sufficient for the majority of ordinary bass passages. One or two of the notes of a perfect scale throughout the compass are wanting in the two-valved instruments, as will be pointed out presently.

The notes produced by pressing down the first and second valves are :—



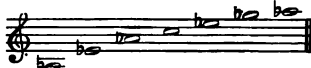
So that by means of two valves and the open tube the following scale is obtainable :—



By treating certain of the notes of the above scale inharmonically, it will be seen that valved instruments may be made to play in almost any key within a limited compass.

When there is a third valve, and it is used in conjunction with the others, the following extra notes may be obtained :—

SECOND AND THIRD VALVES DOWN.



FIRST AND THIRD VALVES DOWN.



FIRST, SECOND, AND THIRD VALVES DOWN.



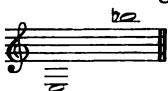
If the composer confines himself to the use of the above notes there will be no necessity for the use of crooks, which, as in the Horn, serve to lengthen the sounding tube, and so to alter the key.

It must be remembered that the Cornet-à-pistons stands in B flat, and, therefore, for every one of the above notes a whole tone lower is actually produced.

Thus the compass of the Cornet-à-pistons, though written in the key of C, between the notes



the sounds are really at the following pitch :—



The crooks occasionally employed for the Cornet and similar instruments are those which alter the pitch so as to make it stand in the key of A or A flat, in which case the sounds delivered are a semitone or a whole tone deeper than the normal pitch. The notes produced by

means of the different valves are, of course, in the same relative proportion in the altered as in the original state.

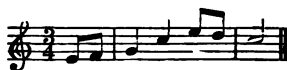
The valved instruments in general use for orchestral purposes are Trumpets in F and E; Soprano Cornet in E flat and C; Cornet in B flat, with crooks for A, A flat, and G; Soprano Sax-horns in E flat; Alto Sax-horn in B flat; Tenor Sax-horn in E flat; French Horn with ten crooks; Bariton Sax-horn; Euphonium in C or B flat, as well as Trombones of different compass. The valved Trombone is not, however, of so good a tone as those furnished with the slide, although the slide answers the same purpose as the valves in changing the pitch of the notes sounded.

The other valved instruments will be found spoken of under the head "Military Band."

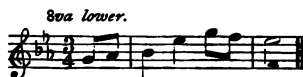
The Treble and Bass clefs alone are employed in writing for the above-named instruments, the former for Trumpets, Cornets, French Horns, and Soprano, Alto, and Tenor Sax-horns, the latter for the remainder of the instruments.

As each instrument is theoretically in the key of C, that or the nearest relative key-signatures are employed. The actual sound produced differs according to the normal note.

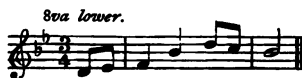
Thus, a passage for the Soprano Cornet in E flat, though written,



would produce to the ear the effect of—

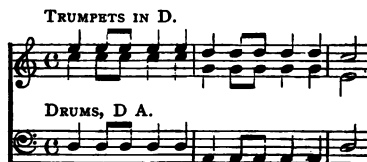


The C Cornet sounds the notes as written, and the B flat Cornet would give the same phrase as though it was—



The Trumpet.

THE TRUMPET, with its bright, piercing, rousing tone, when judiciously employed, is capable of producing very fine results. When it was formerly employed in scores for military effects, it was not uncommonly coupled with the drums, the tone of the one being identical with the rhythmical beat of the other.



Handel employs it as a solo instrument in many cases, and it has also been used as well for solos as for other purposes, as in "The Trumpet shall Sound," in the *Messiah*, and in Dr. Arne's scena, "The Soldier Tired." One of the most effective pieces of modern scoring, in which the Trumpets are introduced, is in the second act of the opera *Carmen*, by Georges Bizet, in which the sound of a "fanfare" is skilfully interwoven with a seguedilla, with a castanet accompaniment, sung and danced by the chief character, the open notes of the Trumpets alone being written:—

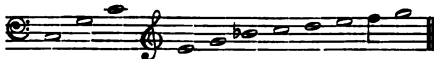
CASTANETS.

VOICE.

TRUMPETS IN B FLAT.

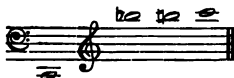
ORCHESTRA.

The scale of the Trumpet is formed of the ordinary harmonics of an open pipe :—



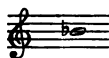
The F natural not being quite in tune, should only be used as a passing note.

These are the most generally useful notes of the instrument; there are others, such as :—

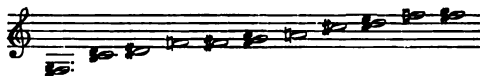


but as the lower one is unnecessary and the upper one hard to play, they had better be not written for.

The Trumpet is usually furnished with a slide, by means of which the B flat—



which is not quite in tune, may be made tuneful, and a new series of notes produced throughout the scale.



So that the compass and usefulness of the trumpet are greatly increased.

The valved Trumpet can be made to sound every note in the scale like the slide Trumpet, but the tone is inferior, not to say vulgar.

The notation of the Trumpet should be in the key of C, after the manner of the Horn. Like it the pitch may be modified by means of crooks or shanks, therefore it is usual to indicate the pitch required, namely, whether in C, D, E flat, E, F, or G.

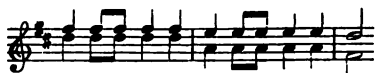
Trumpets are used in pairs, and when not required for

independent work, may be made to strengthen the Horn parts.

It may here be noted that the Trumpet in C produces the notes as written; that in D, a major second *higher*; in E flat, a minor third higher; in E a major third higher; in F a fourth higher; in G, a fourth *lower*; in A, a third lower; in B flat, a second lower than the notation. Thus the passage—



in C sounds as it stands, in D would sound



in E flat



in F



in G



in A



in B flat



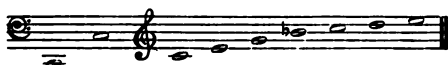
The most useful keys for the Trumpet are B flat, C, D, E flat, E, and F. It must be remembered that in those cases

where the notes sound above the notation the higher notes are more difficult to produce, and should, therefore, be sparingly written.

The Horn.

THIS, one of the brass instruments used in the orchestra, is formed of an open tube, bent into a curved form for the convenience of the player. It is usually written for in the Treble clef, although the sounds it produces are an octave lower than those which appear represented to the eye.

The compass of the HORN is as follows:—



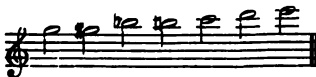
These are called the "Open Notes," that is to say, they are the natural harmonics of the open tube.

There is another series of notes called "Closed Notes," these are not so full in quality as the others, but they may be used with very good effect after an open note; by this means the player is enabled to blow such additional notes as—



These closed notes, which are obtained by inserting the hand in the "bell," or cone, of the instrument, should only be used when particular effects are required, as their sound is *stuffy* and nasal.

Additional notes may be obtained from the Horn such as:—



but the student is warned against writing too freely for them, as they are very difficult to produce.

It is customary to write for a pair of Horns at the least, but some composers employ three or four. The advantage of using four horns is especially to be found in minor keys, as a greater variety is obtained than could be got by a single pair.

When four Horns are used it is a gain to the writer to set two in the tonic, and two in the dominant in major keys. In minor keys it is the custom to write for two of the Horns in the key of the mode, and for two in the relative major. Thus for C minor there would be two horns in C and two in E flat.

The pitch of the Horn is capable of alteration by means of a lengthening tube called a crook. The Horn stands normally in C, and upon the supposition that the crooking does not interfere with the relative production of the notes, the part for the Horn is written as in the key of C, the real key required being indicated at the commencement of the movement.

The following passage *in every case* sounds differently to the pitch expected by the notation :—

Written

CORNI IN C.

Effect

Written

CORNI IN D.

Effect

Written



Effect



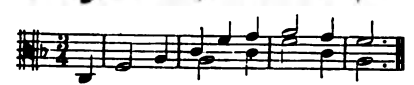
Written



Effect



Written

**Effect**

Written

**Effect**

Written

**Effect**

Written

**Effect**

Written 

Effect 

So that the notes of the Horns in C are an octave lower than written, in D a seventh, in E flat a major sixth, in E a minor sixth, in F a fifth, in G a fourth, in A a minor third, in B flat Alto a major second, in B flat Basso a ninth.

The effects here set down are those of the old French Horn. The Horn with valves or ventils can produce all the chromatic scale between its compass without much difficulty, but the tone is not so good or so pure as that of the old Horn.

The student may write for which Horn he pleases so long as he is satisfied with the effect, but he should specify the kind of Horn he writes for. As examples of the employment of Horns, a careful study of the overture to *Semiramide*, by Rossini, and the whole of the score of *Der Freischütz* by Weber, where the Horns are used, is recommended.

Here is the commencement of a most remarkable passage in this opera, after the casting of the fifth bullet:—



FAGOTTI.

HORN IN B FLAT.

HORN IN F.

HORNS IN E.

TROMBONI.

&c.

Sempre tutto fortissimo possibile.

Trombones.

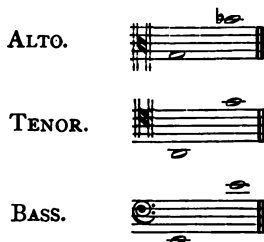
THERE are three kinds of TROMBONES employed in the orchestra, namely—

The ALTO TROMBONE, for which the Alto clef is employed.

The TENOR TROMBONE with the Tenor clef.

The BASS TROMBONE with the ordinary Bass clef.

The compass of the three Trombones is here shown :—



each having the power to produce all the intermediate semitones.

In writing for the Trombones it is suggested to the student to bring the Alto and Tenor as close together as possible, and the Bass at a distance.



It will be observed that the above example is written on one staff; this is often done to save space in a score, especially when the parts do not cross.

The Alto Trombone is not so frequently used in the orchestra as it should be, the players preferring the con-

venience of the Tenor instrument, the tone of which, though good, lacks the soft brilliancy of the Alto. Sometimes none but Bass Trombones are used ; the composer should, therefore, arrange his effects upon such a plan that he may not be disappointed. He can obtain a good effect, in fact the best effect, from the Trombones, by employing them less as noise producers, than to intensify solemn situations. To this end the Trombones should be made to play *piano* after the manner indicated by Mozart in the statue scene in *Don Giovanni*, where the effect is almost sublime. The harmony from Trombones is good, sustained chords being very effective. For martial effects the Trumpets may be added, and if there is a Bass Tuba in the orchestra it may be employed to deepen the bass. When only one Trombone is available preference is given to the bass. Take notice of the startling effect of this instrument in the overture to *Der Freischütz* in the utterance of those two notes—



Gluck, who was the first to introduce Trombones into the orchestra of the grand opera, has used them most skilfully in the score of his *Orphée*, to intensify the chorus of the infernal deities when they refuse to give Eurydice back to the longing arms of her spouse.

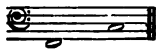
The Trombone, in specially skilful hands, is capable of executing passages of considerable rapidity. The student may be warned against writing quick passages for the instrument, as the probability is that the players will interpret all such passages with an air of undignified vulgarity.

INSTRUMENTS OF PERCUSSION.

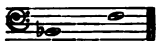
Kettle-Drums.

DRUMS employed in pairs, tuned to the tonic and dominant, have become important as instruments in the orchestra. A very slight acquaintance with the scores written by writers after the time of Beethoven will show how the example set by the great master in elevating the Kettle-Drums from mere noise producers into instruments of as much importance as any others in the band, has been followed most assiduously, so that many times the Drum has actually solo parts to play of considerable importance.

No small degree of care and attention is given to the tuning of the Drums, so that their sounds shall not be inharmonious; and as between the two instruments (the pair of Kettle-Drums) a whole octave of tones may be obtained with every chromatic shade, and as, moreover, the mechanical arrangement for tuning can be regulated to a nicety, the composer may write for any pair of notes he pleases, provided that they are within the compass. Each Drum may be tuned within the interval of a fifth in a scale of F. Thus the lower Drum can give out any note between



and the Drum higher in pitch, any note between



The part for the Drums is always written in the Bass clef, and although the custom of writing varies, some composers always writing as though the drums were in the key of C, contenting themselves with indicating at the beginning the

It is usual to indicate the place and pitch of the Drums by the words "Timpani in D, A," or whatever notes may be required.

The French name for the Kettle-Drums is "Timbales," the German, "Pauken."

If a change of notes is required during the course of a movement, notification of the alteration should be given thus :—

Change to F, B flat,

and the opportunity of tuning should be allowed by giving some rest to the player, as in the case already spoken of with regard to the Horns, or other instruments in which some difference in the performance is required.

The Big Drum and Cymbals.

FOR the reason that there is so little work for these instruments in an ordinary way, they are coupled together, the same player taking both. The true effect of the CYMBALS is somewhat lost, for it is impossible for the vibrations to have full swing when the two plates are clashed one against the other, one being fastened to the BIG DRUM.

The Bass clef is used for both instruments, and it is understood that if they are coupled in name—

Grosse Caisse et Cymbales,
Gran Cassa e Piatti,
Grosse Trommel und Becken,
Big Drum and Cymbals,

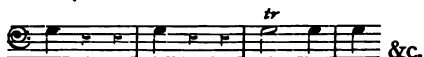
the stroke of both is to be coincident.

The Big Drum without the Cymbals may be used to imitate the firing of a gun, the roll of thunder, or, with the Cymbals, the clash of arms.

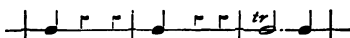
The Triangle.

THE metallic tone of the TRIANGLE is employed to brighten a rhythm, and to produce a certain local colouring, according to the character of the works in which they are used.

The method of writing is as follows:—



Some composers do not dignify the Triangle by giving it a part as above, contenting themselves by assigning to it single line, and marking the rhythm only:—



This latter method is sometimes used for

The Snare, or Side Drum,

so that the part for it would appear thus:—



varied according to the beats required.

In the overture to *La Gazza Ladra*, Rossini has written for two Side Drums, which, when the overture is played, are placed at a distance from each other, so that one serves as an echo to the other. The overture to *Fra Diavolo* may be studied by those who wish to see how the instrument may be most effectively introduced. The student is also referred to the scene of the "Blessing of the Swords," in Meyerbeer's *Huguenots*, to note the magnificent effect of the *crescendo* on the Side Drum, enhanced at the culminating point by the crash of the Big Drum and Cymbals.

The dance music in the *Huguenots* also may be referred to as an effective instance of the use of

The Tambourine,

and the Dance of Almées, in Felicien David's *Desert*, shows a characteristic colour. The method of writing for this and for

The Castanets,

which are chiefly used in dance music of a Spanish style as in Bizet's *Carmen* (see page 66), and for

Bells,

large or small, according to the tone required, is the same as that employed for the Triangle. The composer may, however, write the parts in any way he pleases.

The GLOCKENSPIEL is an instrument formed of a row of Bells tuned diatonically, and played by means of a key-board, like a pianoforte. Mozart has introduced the instrument into his opera *Il Flauto Magico—Die Zauberflöte*.

A table or bell piano of four to five octaves in compass, has been made by Messrs. Cramer, which is likely to supersede the old Glockenspiel, as being more under control, the sound being elicited from a series of metal tongues acted upon by hammers set in motion by means of an ordinary pianoforte key-board.

The Gong, or Tom-tom,

An instrument without a definite tone, may be introduced where sepulchral effects are required, as in the scene of the "Resurrection of the Nuns," in *Roberto il Diavolo*, the appearance of the Ghost of Nino in Rossini's *Semiramide*, also in Spontini's *Vestale*, where the hapless heroine is consigned to a living tomb.

MILITARY BANDS.

Reed Band.

THE instruments employed in a military band are chiefly wind instruments and instruments of percussion. There are two sorts of bands included under the general title of "Military Band," namely, "REED BANDS" and "BRASS BANDS."

The first is composed of oboes, clarinets, bassoons, and other reed instruments, often with the addition of flutes, horns, and sometimes serpents.

The second is composed of brass instruments of various sorts, with clarinets sometimes added.

Drums, gongs, cymbals, and triangles may be used with either band according to the effect desired.

The method of writing for a military band is guided by rules similar to those which should influence the composer for an orchestra. A knowledge of the compass and capabilities of the instruments he has to deal with is the first thing to be acquired. Many instruments already described are used both in military bands and in the orchestra. The compass is identically the same in most cases, but the quality of tone is slightly different. The object of the orchestral player being to obtain sweetness with power, the instruments common to both bands are for that purpose more delicately "voiced" than for open-air playing.

The varieties among the several sorts of instruments employed in military bands are greater than those in the orchestra.

For example, there are ten different sorts of FLUTES in common use, namely :—

The Grand D Flute.

The Grand E flat Flute.

The Third F Flute.

The Fourth G Flute.

The B flat Flute.

The B natural Flute.
The C Flute.
The Octave D Flute (Piccolo).
The E flat Piccolo.
The F Piccolo.

These instruments have the usual compass, are written for in the keys required, but with the exception of the flutes or piccolos in D, the presumed normal tone of the flute, they all transpose according to their relative distance from that normal tone.

These various flutes are employed according to desired keys, and it is unnecessary to repeat any rules or hints for their use, for that which has been said in reference to orchestral flutes in a great measure applies to military band flutes.

The flute may properly be admitted as an integral member of a reed band, for although it is not provided with any distinct mechanism which we call a "reed," the lips of the player on this, as upon other instruments provided with open mouthpieces, form a temporary reed.

The instruments in a reed band may be divided into the following classes—instruments without a mouthpiece, as flutes, piccolos, &c.; single-reed instruments; double-reed instruments; and instruments with cup-shaped mouthpieces.

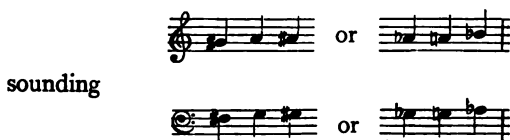
SINGLE-REED INSTRUMENTS.

The Clarinet.

IN the reed band the CLARINET is of equal importance with the Violin in a string band. The B flat Clarinet plays solos or accompaniments, and in fact may be used for all the purposes for which Violins are otherwise employed. The Bassett-Horn may serve as an equivalent for the Viola part.

There are many Clarinets in use, but the most practicable are the high A flat, the E flat, the D flat, the B flat, the Alto Clarinet or Basset-Horn in the keys of F or E flat.

There is also the Bass Clarinet in B flat, which sounds a ninth lower than its notation. It has an unsatisfactory tone as a solo instrument, but it is very valuable in completing the Clarinet quartett, as its tone may be compared to that of the Violoncello. The compass of the instrument is very extensive, but it is best to confine its use to such an extent as could ordinarily be given to the Violoncello, taking care, however, to avoid the doubtful notes common to all Clarinets, with the following in addition :—



The Saxophone.

THE SAXOPHONE is another of the military instruments with a single reed. It is made in several keys to suit the compass for different parts in the harmony.

The Saxophone is almost superseded by the various improvements in other instruments, for its nasal, unsympathetic quality of tone is apt to tire upon the ear.

It is capable of executing tolerably rapid passages, but is more effective in slow movements, in which case the combination of tone produced is not unlike that of the harmonium. In this respect it has been effectively employed as an orchestral instrument, as in Bizet's suite d'orchestre, *L'Arlesienne*.

Its quality of tone is distinct and individual, and as it does not mix well with any other instrument, is only available in

groups of its own class. For this purpose there are Saxophones in high B flat for soprano, E flat for alto, B flat for tenor, E flat for bass, and low B flat for contra-bass. These may be used together or any selection made according to fancy. The compass of the Saxophone is similar to that of the Oboe.

DOUBLE-REED INSTRUMENTS.

The Oboe.

THE chief of the double-reed instruments is the OBOE. It is best employed in pairs in a military band, as the tone, though piercing, is seldom full enough to make a balance. For the same reason the Cor-Anglais, which belongs to the same family, is unavailable alone.

The compass and character, already described (page 52), need not be repeated here. It is occasionally effective in little solos in the reed band.

The Bassoon.

THE BASSOON is even more useful in the reed band than it is in the orchestra. All such florid passages usually assigned to the Violoncello are given to the Bassoon, the Tenor Horns and Euphoniums, Serpents, or Ophicleides playing the steadier solid notes, after the manner of the Contra-bass.

The Double-Bassoon

Is an instrument almost too cumbrous for military purposes, and it is therefore rarely used, more especially as there are many other instruments, such as the Ophicleide, &c., capable of equal effect for the purpose. It is sometimes used in the orchestra, as in the scores of Haydn, Beethoven, Sullivan, and others.

INSTRUMENTS WITH CUP MOUTHPIECES.

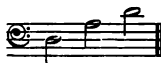
THE Serpent, Ophicleide, Bass-horn, and Bombardon, belong to this order. They are instruments capable of being made useful and effective, but their use and effect ought to be restricted to military bands.

The Serpent.

THE compass of the SERPENT ranges between the following notes :—



with most of the intermediate tones and semitones. There are, however, three notes—



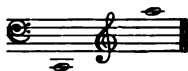
which, being louder than the rest of the scale, require some caution in using. The tone is hard and coarse, so that the Serpent should only be written for in loud passages, and not even in those if there is any rapidity of execution required.

The Ophicleide

Is, as its name implies (*ὄφις* a serpent, and *κλέις* a key), a keyed serpent. The compass is the same as the ordinary serpent, but the keys make the production of all intermediate semitones comparatively easy. Although the Ophicleide is capable of some degree of rapidity in execution, agility is not advisable. There is an alto Ophicleide which has a compass equal to the bass instrument, but it is an octave higher in pitch. The normal tone of the Ophicleide is B flat, and as it is written in C, the sound produced is a whole tone lower than it appears to be playing.

The Bass-Horn.

THE BASS-HORN, BASSON RUSSE, or SERPENTCLEIDE has the like compass with the Bassoon—



Some players can produce a note *below* and one or two notes *above* this compass upon the instrument, but these are of little consequence as the tone is too dull and heavy to be effective for solo purposes. It serves well as a bass instrument where it is employed, but many writers prefer the Double-Bassoon or the Ophicleide.

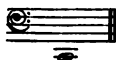
The Bombardon.

THE BOMBARDON, which, like the Ophicleide, can only be considered as a reed instrument, in that the lips of the player form the temporary reed, is the deep bass of a reed band. Its normal tone is F and sometimes E flat, and its compass has the following extent :—



In the case of the E flat Bombardon the tone produced is, of course, a tone lower.

By means of the valves (usually four), the whole of the chromatic intervals within the above compass can be obtained. It is as well, however, to avoid the extreme low notes and to commence writing from the first C only—



It must be understood that these sounds are only of 8-feet tone. If the 16-feet tone is required a Bass B flat Bombardon sounding an octave deeper than the written notes must be employed.

The instruments available for a reed band are the following :—Flutes, including a piccolo at discretion, oboes, clarinets, bassoons, saxophones, horns, serpents, ophicleides, bombardons, and bass bombardons.

Practical experience alone will open to the writer the best method of obtaining varieties of tone from the combination of these instruments. A careful study of some good scores will do a little, and a still more careful observation of the effects produced, when the student has the opportunity of hearing a reed band, will do more towards adding to his stock of available knowledge than many treatises upon the subject, even were it possible to write them.

The drums and other instruments played by being struck are the same in character as those employed in an orchestra—see page 75.

BRASS BAND.

THE instruments employed in a BRASS BAND vary according to circumstances and convenience.

Those employed for the higher or treble parts of the harmony are trumpets, soprano cornet-à-pistons, and soprano sax-horns.

For the alto parts, cornet-à-pistons in B flat, alto sax-horn, alto trombone.

For the tenor parts, horns with or without valves, tenor sax-horns, tenor trombone.

For the bass parts, bariton sax-horns, trombones in F, euphonium, bombardons.

THE NAMES OF INSTRUMENTS IN ENGLISH,
GERMAN, ITALIAN, AND FRENCH.

| ENGLISH. | GERMAN. | ITALIAN. | FRENCH. |
|--------------|-----------------|----------------------------------|-----------------|
| Piccolo | Pikkolföte | Ottavino | Petite Flûte |
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| English Horn | Englisches Horn | Corno Inglese | Cor-Anglais |
| Clarinet | Klarinette | Clarinetto | Clarinette |
| Bassoon | Fagott | Fagotto | Basson |
| Horns | Horner | Corni | Cors |
| Trumpets | Trompeten | { Clarini { Trombe | } Trompettes |
| Trombones | Posaunen | Tromboni | Trombones |
| Kettle-Drums | Pauken | Timpani | Timbales |
| Triangle | Triangel | Triangolo | Triangle |
| Cymbals | Becken | Piatti | Cymbales |
| Big Drum | Grosse Trommel | { Gran Cassa { Tamburo grande | } Grosse Caisse |
| Harp | Harfe | Arpa | Harpe |
| Violin | Geige | Violino | Violin |
| Tenor | Bratsche | Viola | Alto |
| Violoncello | Violoncell | Violoncello | Violoncelle |
| Double-Bass | Contrabass | Contrabasso | Contrebasse |
| Voices | Stimmen | Voci | Voix |
| Treble | Sopran | Soprano | Soprano |
| Alto | Alt | Contralto | Contralto |
| Tenor | Tenor | Tenore | Taille |
| Bass | Bass | Basso | Basse |
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| Organ | Organ | Organo | Orgue |

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Each of these works treats its several subjects with a considerable degree of fulness, giving at each step examples from existing compositions as support and illustration.

As, however, the student may consider it an advantage to have some sort of preparation in an elementary way, in order that he may be the better able to comprehend the more elaborate literature of the subject, he may not be altogether unwilling to make himself master of the principles exhibited in the foregoing pages. A little well learned is better than much superficially acquired, and in music especially quality is distinctly preferable to quantity.

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